REMARKS

Claims 2-23 are pending. Claims 12, 13, 14, 19 and 20 were amended to address the Examiner's claim objections. Claims 11, 13 and 19 were further amended to more particularly point out and distinctly claim the present invention. Claim 1 was canceled. Claims 8 and 16 were amended to address an obvious typographical error. Claim 11 was rewritten in independent form. Dependent claims 2, 3, 4, 10 and 12 were amended to be dependent upon claim 11. Claims 21-23 were added to further define the present invention. Withdrawal of all claim objections and rejections is respectfully requested for at least the reasons set forth below.

Claim Objections

In the outstanding Office Action, the Examiner identifies claims 9[1], 12, 14 and 20 as requiring an Angstrom symbol ("Å") after all numbers identifying the grain sizes. In addition, the Examiner objected to claim 9[2] as lacking a clear antecedent basis with reference to "the memory cell."

Claims 12-14, 19 and 20 were amended to address the claim objections. Specifically, claims 12, 14, 19 and 20 were amended to include the Angstrom symbol ("Å") after all numbers identifying the grain size limitations. Claim 13 was amended to address the antecedent basis issues to clarify the limitation for "the memory cell."

Prior Art Rejection

Claims 1-20 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 6,166,401 (Forbes), hereafter, "Forbes." Applicants respectfully request withdrawal of the rejection as it relates to the amended claims.

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[1] Claim 9 does not contain the grain size features or limitation. It is believed that the Examiner meant to refer to claim 19.

[2] Claim 9 does not have any reference to "the memory cell." It is believed that the Examiner meant to refer to claim 13.

1. Patentability of claims 11 and 19 over Forbes

The Examiner asserts that Forbes discloses all of the features of claims 11 and 19 of the present application. This is incorrect. Claim 11 recites, "forming a layer of nitride over the control gate layer" and claim 19 recites, "forming a layer of nitride over the plurality of word lines." Forbes does not disclose either of these steps and does not even mention nitride anywhere in his specification. The step of forming the nitride layer is described on page 8, lines 11-16 of the present application, which reads as follows:

> [024] In one aspect, a cap layer 118 is further formed over the surface of control gate 116. Cap layer 118 may be comprised of silicon nitride (SiN). In operation, nitride cap layer 118 over control gate 116 improves the performance of the memory device, e.g., the difference in the threshold voltage of the MOS transistor for different memory cell, i.e., "0" and "1", is increased, and the endurance of memory device 100 is improved.

Comparing Fig. 1 of the present invention to Figs. 1-3 of Forbes, Fig. 1 of the present invention shows the nitride layer 118 over the control gate 116, whereas Fig. 1 of Forbes does not show any layer over the control gates 114 or 314. Forbes thus lacks the highlighted step, as well as the beneficial functions of the nitride layer discussed in the text portion above.

2. Patentability of claim 13 over Forbes

The Examiner asserts that Forbes discloses all of the features of claim 13. This is incorrect. Claim 13 recites, in part, "thermally treating the memory cell to transform the amorphous material into a microcrystalline material." This step is not disclosed in Forbes. The "thermally treating" step is described on page 7, lines 16-22 of the present application, which reads as follows:

> [021] In another aspect, the step of forming floating gate 112 comprises forming a layer of amorphous silicon over first insulating layer 110. A step of thermal treatment follows to transform the amorphous silicon into polysilicon with a grain size of about 200-500 Å. In one aspect, the thermal treatment is performed in a conventional vertical furnace or rapid thermal process apparatus, with reaction gases including N_2, O_2, H_2, N_2O. In

another aspect, the thermal treatment is performed at a temperature of about 800°C - 1000°C (underlining for emphasis)

Column 4, lines 33-35 of Forbes discloses that the "floating gate is "formed as a microcrystalline silicon carbide film." However, Forbes does not disclose how the forming occurs, or whether thermal treatment is used in the manner recited in claim 13.

3. Patentability of dependent claims

The dependent claims are believed to be patentable over Forbes, because they depend from allowable independent claims and because they recite additional patentable features.

Conclusion

Insofar as the Examiner's rejections were fully addressed, the instant application is in condition for allowance. A Notice of Allowability of all pending claims is therefore earnestly solicited.

Respectfully submitted,

TUUNG LUOH et al.

August 18, 2005 By: Clark Jablon

(Date)

CLARK A. JABLON
Registration No. 35,039
AKIN GUMP STRAUSS HAUER & FELD LLP
One Commerce Square
2005 Market Street - Suite 2200
Philadelphia, PA 19103
Direct Dial: (215) 965-1293
Facsimile: (215) 965-1210

CAJ/PAI/gem

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